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A microfungus from Costa Rica: *Ticosynnema* gen. nov.

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Abstract — *Ticosynnema carranzae* gen. & sp. nov., a new microfungus collected on the twig of an unidentified plant, is described and illustrated. It is distinguished by synnematous determinate conidiomata, monoblastic integrated determinate conidiogenous cells, and solitary, 3–4-septate, oblong, cylindrical to vermiform, brown conidia that secede rhexolytically.

Key words — anamorphic fungi, systematics, leaf litter

During an ascomycete-basidiomycete workshop field course at the VII Latin-American Mycological Congress, more than 100 samples of dead plant material colonized by anamorphic fungi were collected in a dry forest at the wildlife station in Santa Rosa National Park, Guanacaste, Costa Rica. Among these samples a conspicuous synnematous fungus was collected, which is herein described and illustrated.

Taxonomy

Ticosynnema R.F. Castañeda, Granados & Mardones, **anam. gen. nov.**

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Differs from *Leuliisinea* by brown to black conidiomata and determinate conidiogenous cells, from *Endophragmiella* by synnematous conidiomata and determinate

conidiogenous cells, and from *Kramasamuha* by synnematous conidiomata and unbranched filaments.

Type species: *Ticosynnema carranzae* R.F. Castañeda et al.

Etymology: *Tico-*, is an indigenous word for Costa Rica, *-synnema*, referring to the type of conidioma of this anamorphic fungus.

Anamorphic fungi. Conidiomata on the natural substratum synnematous, scattered, determinate, dark brown to black. Mycelium superficial and immersed. Conidiophores macronematous, mononematous, erect, septate, loosely packed or compact, brown to dark brown. Conidiogenous cells monoblastic, integrated, determinate, terminal. Conidial secession rhexolytic. Conidia solitary, acrogenous, cylindrical, vermiform to oblong, with a conspicuous basal frill produced by the rhexolytic fracture of the wall of the conidiogenous cells, septate, foveate, smooth or verruculose, pale brown to brown. Teleomorph unknown.

Note: *Ticosynnema* superficially resembles *Leuliisinea* Matsush., but has percurrent proliferating, annellate conidiogenous cells and hyaline conidiomata. In fact, the two genera are similar only with respect to rhexolytic conidial secession (Matsushima 1985, Seifert et al. 2011). *Endophragmiella* B. Sutton and *Kramasamuha* Subram. & Vittal (Seifert et al. 2011) also produce conidia by rhexolytic fracture of the monoblastic conidiogenous cells, but both lack synnematous conidiomata. *Endophragmiella* has percurrent conidiogenous cell proliferations while such proliferations are absent in *Ticosynnema* and *Kramasamuha*. In addition, short sympodial or verticillate branches are present in *Kramasamuha* (Subramanian & Vittal 1973, Seifert et al. 2011).

Ticosynnema carranzae R.F. Castañeda, Granados & Mardones, **anam. sp. nov.** Figs 1,2

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Differs from *Leuliisinea bambusicola* by having brown to black conidiomata and determinate conidiogenous cells, from *Endophragmiella* spp. by synnematous conidiomata and determinate conidiogenous cells, and from *Kramasamuha sibika* by synnematous conidiomata and unbranched filaments.

Type: Costa Rica, Guanacaste, Santa Rosa National Park, wildlife station, 10°52 N 85°35 W, on living twig of unidentified plant, 15 July 2011, coll. Dr. Aida Vasco Palacios, C11/51 (**Holotype,** HAL 2454 F).

Etymology: Latin, *carranzae*, named in honor of Dr. Julieta Carranza, a Costa Rican mycologist, for her contribution to Latin-American mycological progress and development.

Conidiomata on the natural substratum synnematous, determinate, scattered, erect, dark brown to black, 250–600 µm tall, 40–70 µm wide. Stipe composed of parallel hyphal filaments (conidiophores), multi-septate, straight, cylindrical, closely packed at the base and loosely towards the apex, black or dark brown

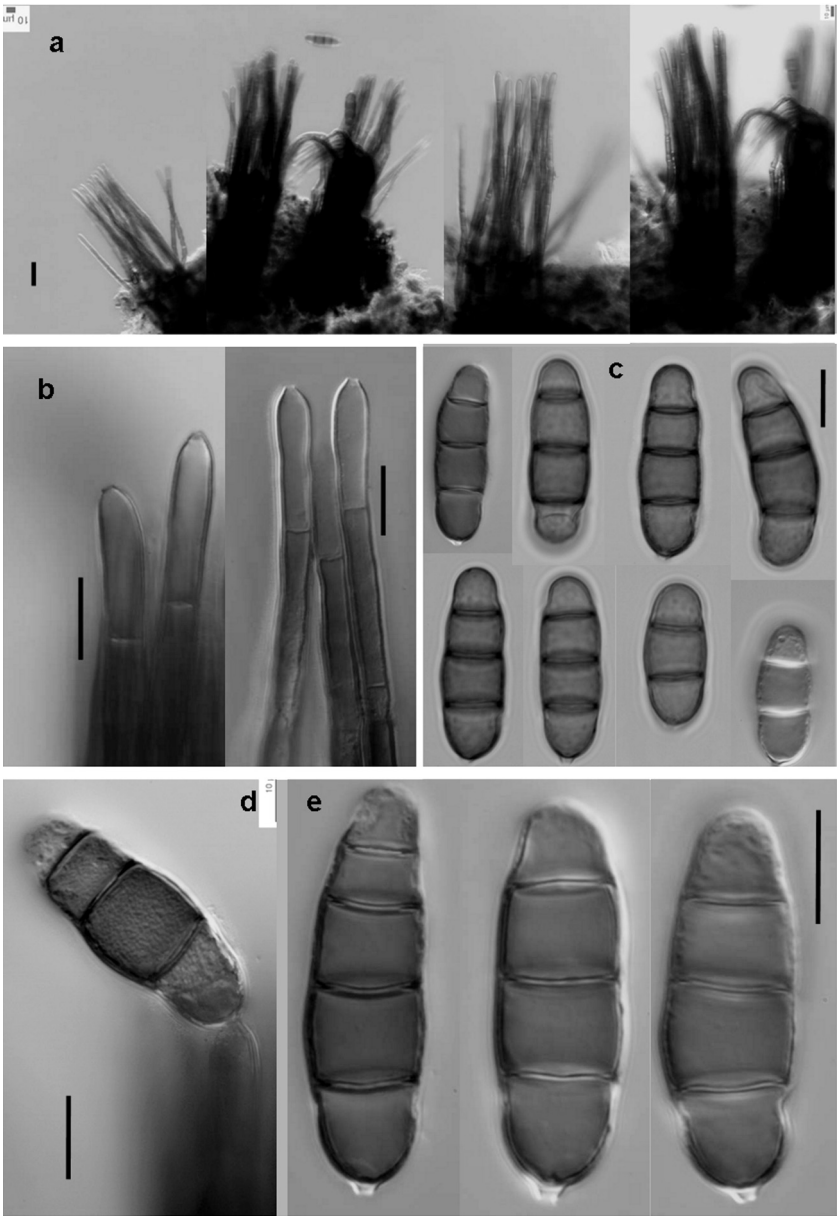

Fig. 1. *Ticosynnema carranzae* (ex holotype HAL 2454 F): a. Conidiomata. b. Conidiogenous cells. c. Attached conidium. d–e. Conidia. Bars = 20 µm (a) and 10 µm (b-e).

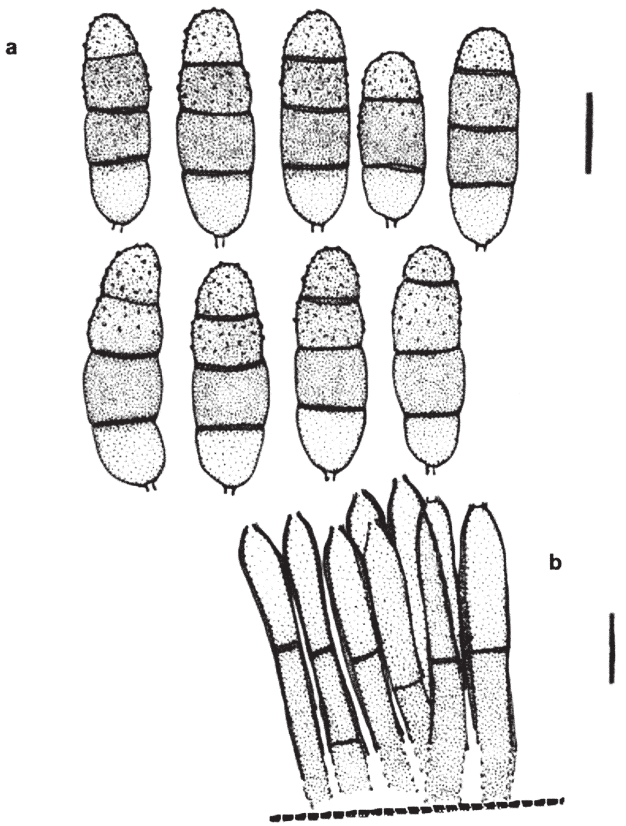

Fig. 2. Drawing of *Ticosynnema carranzae* (ex holotype HAL 2454 F): a. Conidia. b. Conidiogenous cells. Bars = 10 µm.

below, brown or pale brown above, smooth, 5–8 µm diam. Mycelium partly immersed and partly superficial. Hyphae septate, branched, smooth, pale brown, 2–4 µm diam. Conidiogenous cells monoblastic, terminal, determinate, integrated, brown to pale brown, 17–25 × 4–5 µm. Conidial secession rhexolytic. Conidia solitary, acrogenous, oblong, cylindrical, vermiform, 3–4-septate, foveate to verruculose, 35–45 × 11–12 µm, brown to dark brown, dry, with end cells usually markedly different; basal cell hemispherical, slightly narrower at the first septum, with an evident pale brown frill 1.5–2.5 µm long; apical cell somewhat obtuse. Teleomorph unknown.

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